US005810985A

United States Patent [19]

Bao et al.

[11] **Patent Number: 5,810,985**

[45] **Date of Patent: Sep. 22, 1998**

[54] **ELECTROPHORETICALLY MEDIATED CHEMICAL ANALYSIS**

[75] Inventors: **Jianmin Bao**; **Bryan Joseph Harmon**; **Dale Hansen Patterson**; **Fred E. Regnier**, all of West Lafayette, Ind.

[73] Assignee: **Purdue Research Foundation**, West Lafayette, Ind.

[21] Appl. No.: **386,224**

[22] Filed: **Feb. 9, 1995**

Related U.S. Application Data

[63] Continuation of Ser. No. 944,846, Sep. 14, 1992, abandoned.

[51] **Int. Cl.**[6] **C25B 7/00**; G01N 33/573

[52] **U.S. Cl.** ..... **204/451**; 204/452; 204/601; 204/603; 204/182.1; 204/180.1; 204/182.8; 204/299 R; 435/7.4

[58] **Field of Search** ..... 204/182.1, 182.8, 204/299 R, 451, 452, 601, 603; 435/7.4

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Primary Examiner—Cecilia J. Tsang
Assistant Examiner—C. Delacroix-Muirheid
Attorney, Agent, or Firm—Testa, Hurwitz & Thibeault, LLP

[57] **ABSTRACT**

Disclosed are methods of electrochemical analysis of an analyte in a sample. The methods include providing a sample comprising an analyte, and introducing the sample into a capillary tube containing electrophoretic running buffer and a reactant. According to the methods of the invention, one or both of the analyte and the reactant is electrically charged. Chemical contact between analyte and reactant induced by their relative electrophoretic mobility results in the breaking or formation of a covalent bond of one of the analyte or the reactant to produce a detectable product. The methods also include the steps of imposing along the length of the capillary tube an electric current for a time sufficient to bring into chemical contact within the tube analyte and reactant so as to allow formation of product, and detecting the product.

5 Claims, 17 Drawing Sheets